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10/728,218	12/04/2003	Anthony C.K. Soong	4740-234	7944

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EXAMINER
DESIR, PIERRE LOUIS

ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/728,218	SOONG ET AL.	
	Examiner	Art Unit	
	Pierre-Louis Desir	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/13/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 9-15, 17-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Hunzinger, Pub. No. US 20020142772.

Regarding claim 1, Hunzinger discloses a method of call recovery in a wireless communication network (see abstract), comprising: reserving a forward link channel for use as a call recovery channel (i.e., a single common rescue channel available to any mobile station in need of rescue. Thus, a dedicated single common rescue channel is reserved for mobile station in need of rescue) (see page 5, paragraph 41); configuring the call recovery channel for simultaneous rescue of multiple mobile stations (i.e., the forward link includes a forward common multiple access rescue channel (RC-MA), which allows multiple failing mobile stations to access the RC-MA and rescue their failing connections) (see page 6, paragraph 62); and multiplexing rescue messages for multiple mobile stations onto the call recovery channel for transmission to mobile stations in need of rescue (i.e., a multiplexer could receive signaling messages as control inputs, and encrypted data directed to multiple mobile stations as data inputs. These data are encoded for particular users, thereby allowing user data to be sent on the RC-MA) (see page 7, paragraph 74).

Regarding claim 2, Hunzinger discloses a method (see claim 1 rejection) wherein the call recovery channel is a dedicated channel (i.e., a reserved channel code) (see page 5, paragraph 41).

Regarding claim 3, Hunzinger discloses a method (see claim 1 rejection) wherein the call recovery channel is a dedicated Walsh code channel (i.e., Walsh codes are used to in orthogonal modulation, which channelizes the data) (see page 6, paragraph 66).

Regarding claim 4, Hunzinger discloses a method (see claim 1 rejection) wherein configuring the call recovery channel for simultaneous rescue of multiple mobile stations comprises dividing the call recovery channel into a plurality of time slots (i.e., mobile stations may be rescue one at a time by sequentially sending RC-MAS messages directed to those mobile stations. Thus, messages will sequentially be sent to the mobile stations on at a time (different time slots)) (see page 7, paragraph 76).

Regarding claim 5, Hunzinger discloses a method (see claim 4 rejection) wherein multiplexing rescue messages for multiple mobile stations onto the call recovery channel for transmission to mobile stations in need of rescue comprises transmitting rescue messages for different mobile stations in different time slots (i.e., sequentially sending RC-MAS messages to mobile stations on at a time) (see page 7, paragraph 76).

Regarding claim 6, Hunzinger discloses a method (see claim 5 rejection) wherein multiplexing rescue messages for multiple mobile stations onto the call recovery channel for transmission to mobile stations in need of rescue further comprises encoding each rescue messages with a code associated with a target mobile station (i.e., data could be encrypted or encoded for particular users) (see page 7, paragraph 74).

Regarding claim 7, Hunzinger discloses a method (see claim 5 rejection) wherein transmitting rescue messages for different mobile stations in different time slots comprises selecting a time slot for each mobile station in need of rescue (i.e., sequentially sending RC-MAS messages to mobile stations on at a time (inherently selects a specific time to send the RC-MAS message to the mobile stations in need of rescue)) (see page 7, paragraph 76).

Regarding claim 9, Hunzinger discloses a base station in a mobile communication network having rescue capability (see abstract and fig. 2), comprising: transceivers for communicating with one or more mobile stations over forward and reverse link channels (see fig. 2, page 1, paragraph 7); a forward call recovery channel for communicating with mobile stations in need of rescue (i.e., forward common multiple access rescue channel) (see page 6, paragraph 62), said forward call recovery channel configured for simultaneous use by multiple mobile stations (i.e., a forward common multiple access rescue channel (RC-MA), which allows multiple failing mobile stations to access the RC-MA and rescue their failing connections) (see page 6, paragraph 62); and a control unit operatively connected to the transceivers for multiplexing rescue messages to mobile stations in need of rescue onto the forward call recovery channel (i.e., a multiplexer could receive signaling messages as control inputs, and encrypted data directed to multiple mobile stations as data inputs. These data are encoded for particular users, thereby allowing user data to be sent on the RC-MA) (see fig. 9, page 7, and paragraph 74).

Regarding claim 10, Hunzinger discloses a base station (see claim 9 rejection) wherein the forward call recovery channel is a dedicated channel (i.e., a reserved channel code) (see page 5, paragraph 41).

Regarding claim 11, Hunzinger discloses a base station (see claim 10 rejection) wherein the call recovery channel is a dedicated Walsh code channel (i.e., Walsh codes are used to in orthogonal modulation, which channelizes the data) (see page 6, paragraph 66).

Regarding claim 12, Hunzinger discloses a base station (see claim 9 rejection) wherein the call recovery channel is divided into a plurality of time slots (i.e., mobile stations may be rescue one at a time by sequentially sending RC-MAS messages directed to those mobile stations. Thus, messages will sequentially be sent to the mobile stations on at a time (different time slots)) (see page 7, paragraph 76).

Regarding claim 13, Hunzinger discloses a base station (see claim 12 rejection) wherein the control unit multiplexes rescue messages onto the call recovery channel by transmitting rescue messages for different mobile stations in different time (i.e., sequentially sending RC-MAS messages to mobile stations on at a time) (see page 7, paragraph 76).

Regarding claim 14, Hunzinger discloses a base station (see claim 13 rejection) wherein the control unit encodes rescue messages with a code corresponding to a target mobile station (i.e., data could be encrypted or encoded for particular users) (see page 7, paragraph 74).

Regarding claim 15, Hunzinger discloses a base station (see claim 13 rejection) wherein the control unit selects a time slot for each mobile station in need of rescue (i.e., sequentially sending RC-MAS messages to mobile stations on at a time (inherently selects a specific time to send the RC-MAS message to the mobile stations in need of rescue)) (see page 7, paragraph 76).

Regarding claim 17, Hunzinger discloses a method of call recovery in a wireless communication network (see abstract), comprising: monitoring a signal quality indicator at a mobile station (i.e., mobile station monitors the strength of pilot channels) (see fig. 4, page 2,

paragraph 21); comparing the signal quality indicator to first and second thresholds (i.e., searches for a pilot that is sufficiently stronger than a pilot ass threshold value) (see fig. 4, paragraph 21); transmitting a first rescue message to a first base station in response to the signal quality indicator reaching a first threshold (i.e., as the mobile station moves from one region to another, the mobile station promotes certain pilots from the Neighbors set to the candidate set. Thus, the mobile station inherently transmits a first rescue message) (see fig. 4, paragraph 21); and autonomously promoting one or more base stations into the mobile station's active set (i.e., notifies the base stations of the promotion of certain pilots via a pilot strength measurement message) (see fig. 4, paragraph 21) and sending a second rescue message to the first base station in response to the signal quality indicator reaching the second threshold (i.e., when one of the pilots weakens, the MS notifies the BSs of the change) (see fig. 4, paragraph 22); and transmitting signals to the newly promoted base stations (see paragraphs 21- 22).

Regarding claim 18, Hunzinger discloses a method (see claim 17 rejection) wherein the first rescue message is a pilot strength measurement message (see fig. 4, page 3, paragraph 21).

Regarding claim 19, Hunzinger discloses a method (see claim 18 rejection) wherein the pilot strength measurement message includes an explicit indication that the first threshold has been reached (i.e., PSMM contains strength of the received pilot signals) (see fig. 4, page 3, and paragraph 21).

Regarding claim 20, Hunzinger discloses a method (see claim 17 rejection) wherein the second rescue message is a pilot strength measurement message including pilot strength measurements for the newly promoted base stations (see fig. 4, paragraphs 21-22).

Regarding claim 21, Hunzinger discloses a method (see claim 20 rejection) wherein the

pilot strength measurement message includes an explicit indication that the second threshold has been reached (i.e., PSMM contains strength of the received pilot signals) (see fig. 4, paragraphs 21-22).

Regarding claim 22, Hunzinger discloses a mobile station (see fig. 4) a transceiver (MS transceiver) (see fig. 4, and paragraph 77) for communicating with one or more base stations in a mobile communication network; and a control unit (inherent) operatively connected to the transceiver for: monitoring a signal quality indicator at a mobile station (i.e., mobile station monitors the strength of pilot channels) (see fig. 4, page 2, paragraph 21); comparing the signal quality indicator to first and second thresholds (i.e., searches for a pilot that is sufficiently stronger than a pilot ass threshold value) (see fig. 4, paragraph 21); transmitting a first rescue message to a first base station in response to the signal quality indicator reaching a first threshold i.e., as the mobile station moves from one region to another, the mobile station promotes certain pilots from the Neighbors set to the candidate set. Thus, the mobile station inherently transmits a first rescue message) (see fig. 4, paragraph 21); and autonomously promoting one or more base stations into the mobile station's active set when the second threshold is reached (i.e., notifies the base stations of the promotion of certain pilots via a pilot strength measurement message) (see fig. 4, paragraph 21) and sending a second rescue message to the first base station in response to the signal quality indicator reaching the second threshold (i.e., when one of the pilots weakens, the MS notifies the BSs of the change) (see fig. 4, paragraph 22); and transmitting signals to the newly promoted base stations (i.e., when one of the pilots weakens, the MS notifies the BSs of the change) (see fig. 4, paragraphs 21-22).

Regarding claim 23, Hunzinger discloses a mobile station (see claim 22 rejection) wherein the first rescue message is a pilot strength measurement message (see fig. 4, page 3, paragraph 21).

Regarding claim 24, Hunzinger discloses a mobile station (see claim 23 rejection) wherein the pilot strength measurement message includes an explicit indication that the first threshold has been reached (i.e., PSMM contains strength of the received pilot signals) (see fig. 4, page 3, and paragraph 21).

Regarding claim 25, Hunzinger discloses a mobile station (see claim 22 rejection) wherein the second rescue message is a pilot strength measurement message including pilot strength measurements for the newly promoted base stations (see fig. 4, paragraphs 21-22).

Regarding claim 26, Hunzinger discloses a mobile station (see claim 25 rejection) wherein the pilot strength measurement message includes an explicit indication that the first threshold has been reached (i.e., PSMM contains strength of the received pilot signals) (see fig. 4, page 3, and paragraphs 21-22).

Regarding claim 27, Hunzinger discloses a method of call recovery in a wireless communication network (see abstract), comprising: receiving an explicit rescue message from a mobile station at a base station (transmits a reverse rescue channel to the network) (see paragraph 64); and initiating a rescue procedure responsive to the explicit rescue message from the mobile station (i.e., the network responds by communicating a RC-MA containing a message specific to that failing MS) (see paragraph 65).

Regarding claim 28, Hunzinger discloses a method of call recovery (see abstract) comprising: reserving a forward link channel for use as a call recovery channel (i.e., a single

common rescue channel available to any mobile station in need of rescue. Thus, a dedicated single common rescue channel is reserved for mobile station in need of rescue) (see page 5, paragraph 41); configuring the call recovery channel for simultaneous rescue of multiple mobile stations (i.e., the forward link includes a forward common multiple access rescue channel (RC-MA), which allows multiple failing mobile stations to access the RC-MA and rescue their failing connections) (see page 6, paragraph 62); detecting multiple mobile stations in need of rescue (i.e., the infrastructure monitors connections with MSs to detect potentially failing MSs) (see fig. 12, paragraph 76); and for each mobile station: selecting one or more rescue base stations notifying one or more rescue base stations to listen for transmissions from the mobile station (i.e., the infrastructure monitors connections with MSs to detect potentially failing MSs) (see fig. 12, paragraph 76); receiving a pilot strength measurement message from the mobile station at a rescue base station (i.e., the BS represents all BSs in the network that are participating in the rescue, as may be determined by pilot signal strength measurements taken by the failing MS) (see fig. 15, paragraph 85); and sending a handoff direction message to the mobile station over the forward call recovery channel (i.e., a multiple-access forward rescue-channel configuration using a common long-code mask, a reserved or common orthogonal channel code, and new signaling on the forward rescue channel to bear new MS-addressed rescue handoff messaging) (see paragraph 41).

Regarding claim 29, Hunzinger discloses a method (see claim 28 rejection) wherein detecting multiple mobile stations in need of rescue comprises detecting a loss of signal from the mobile stations (i.e., detecting failing mobile stations) (see fig. 12, paragraph 76).

Regarding claim 30, Hunzinger discloses a method (see claim 28 rejection) wherein detecting multiple mobile stations in need of rescue comprises receiving a rescue message from the mobile stations (transmits a reverse rescue channel to the network) (see paragraph 64).

Regarding claim 31, Hunzinger discloses a method (see claim 28 rejection) wherein detecting multiple mobile stations in need of rescue comprises detecting a quality of the communication link from the mobile stations (i.e., the BS represents all BSs in the network that are participating in the rescue, as may be determined by pilot signal strength measurements taken by the failing MS) (see fig. 15, paragraph 85).

Regarding claim 32, Hunzinger discloses a method (see claim 28 rejection) wherein the call recovery channel is a dedicated channel (i.e., a reserved channel code) (see page 5, paragraph 41).

Regarding claim 33, Hunzinger discloses a method (see claim 32 rejection) wherein the call recovery channel is a Walsh code channel (i.e., Walsh codes are used to in orthogonal modulation, which channelizes the data) (see page 6, paragraph 66).

Regarding claim 34, Hunzinger discloses a method (see claim 28 rejection) wherein configuring the call recovery channel for simultaneous rescue of multiple mobile stations comprises dividing the call recovery channel into a plurality of time slots (i.e., mobile stations may be rescue one at a time by sequentially sending RC-MAS messages directed to those mobile stations. Thus, messages will sequentially be sent to the mobile stations on at a time (different time slots)) (see page 7, paragraph 76).

Regarding claim 35, Hunzinger discloses a method (see claim 28 rejection) wherein sending a handoff direction message to the mobile station over the forward call recovery

channel, comprises multiplexing rescue messages for multiple mobile stations onto the call recovery channel for transmission to mobile stations in need of rescue (i.e., a multiplexer could receive signaling messages as control inputs, and encrypted data directed to multiple mobile stations as data inputs. These data are encoded for particular users, thereby allowing user data to be sent on the RC-MA) (see page 7, paragraph 74).

Regarding claim 36, Hunzinger discloses a method (see claim 35 rejection) wherein multiplexing rescue messages for multiple mobile stations onto the call recovery channel for transmission to mobile stations in need of rescue comprises transmitting rescue messages for different mobile stations in different time slots (i.e., sequentially sending RC-MAS messages to mobile stations on at a time) (see page 7, paragraph 76).

Regarding claim 37, Hunzinger discloses a method (see claim 36 rejection) wherein multiplexing rescue messages for multiple mobile stations onto the call recovery channel for transmission to mobile stations in need of rescue further comprises encoding each rescue messages with a code associated with a target mobile station (i.e., data could be encrypted or encoded for particular users) (see page 7, paragraph 74).

Regarding claim 38, Hunzinger discloses a method (see claim 36 rejection) wherein transmitting rescue messages for different mobile stations in different time slots comprises selecting a time slot to each mobile station in need of rescue (i.e., sequentially sending RC-MAS messages to mobile stations on at a time (inherently selects a specific time to send the RC-MAS message to the mobile stations in need of rescue)) (see page 7, paragraph 76).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8, 16, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunzinger in view of Bonta et al. (Bonta), Pub. No. US 20010055969.

Regarding claim 8, Hunzinger discloses a method as described (see claim 7 rejection).

Although Hunzinger discloses a method as described, Hunzinger does not specifically disclose a method wherein time slots are selected based on the product of a hashing algorithm.

However, Bonta discloses a method wherein a hashing algorithm based on the mobile station's ESN is used to select a Walsh code (see page 5, paragraph 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. a motivation for doing so would have been to arrive at a method wherein the actual assignment of a MS to a slot may be defined by a hashing formula based on the MS's ESN.

Regarding claim 16, Hunzinger discloses a base station as described (see claim 15 rejection).

Although Hunzinger discloses a base station as described, Hunzinger does not specifically disclose a base station wherein time slots are selected based on the product of a hashing algorithm.

However, Bonta discloses a hashing algorithm based on the mobile station's ESN is used to select a Walsh code (see page 5, paragraph 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. a motivation for doing so would have been to arrive at a method wherein the actual assignment of a MS to a slot may be defined by a hashing formula based on the MS's ESN.

Regarding claim 39, Hunzinger discloses a method as described (see claim 7 rejection).

Although Hunzinger discloses a method as described, Hunzinger does not specifically disclose a method wherein time slots are selected based on the product of a hashing algorithm.

However, Bonta discloses a method wherein a hashing algorithm based on the mobile station's ESN is used to select a Walsh code (see page 5, paragraph 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. a motivation for doing so would have been to arrive at a method wherein the actual assignment of a MS to a slot may be defined by a hashing formula based on the MS's ESN.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is 703-605-4312. The examiner can normally be reached on (571) 272-7799.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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